

# Claims

- [c1] 1. A golf club head comprising: a recess having a polymer insert, said polymer insert composed of a thermoplastic transparent polymer material in a thickness of 2 to 25 mm and having a gloss and lustrous surface, said recess being formed in the striking plate of a putter head, the bakcside of an iron head or the crown of a wood head; wherein said thermoplastic transparent polymer material is selected from the group consisting of polymethacrylate, polyacrylate, polycarbonate, polyethylene terephthalate, transparent polypropylene, transparent polyethylene, transparent polyvinyl chloride, transparent nylon, thermoplastic polyurethane, and the mixtures thereof.
2. The golf club head according to claim 1 wherein said polymer insert has a pattern or logo under said polymer insert or inside said polymer insert.
3. The golf club head according claim 1 wherein said thermoplastic transparent polymer material is selected from the group consisting of polymethacrylate, polyacrylate, polyethylene terephthalate, thermoplastic polyurethane and the mixtures thereof.
4. The golf club head according claim 1 wherein said

thermoplastic transparent polymer material is poly-methyl methacrylate.

5. The golf club head according to claim 1 wherein said golf club head is a putter head and said polymer insert is in a thickness of 2 to 12 mm, preferably 4 to 10 mm.

6. The golf club head according to claim 1 wherein said golf club head is an iron head and said polymer insert is in a thickness of 4 to 22 mm, preferably 10 to 18 mm.

7. The golf club head according to claim 1 wherein said golf club head is a wood head and said polymer insert is in a thickness of 10 to 25 mm, preferably 15 to 20 mm.

8. A method of producing a golf club head with a polymer insert comprising the steps of:(1) producing a coarse area or coarse areas within the recess surface/ surfaces of a golf club head by grinding or abrasion,(2) selecting a thermoplastic transparent polymer material and applying heat on it until it melts into fluid,(3) pouring the polymer fluid obtained in step (2) into the abraded recess obtained in step (1),(4) subsequently making the polymer fluid of step (3) dried and hardened,(5) abrading the completely dried polymer obtained in step (5), and (6) polishing the abraded polymer obtained in step (5) until a completely planar and transparent polymer insert is obtained.

9. The method according claim 8 wherein before step (3) a pattern or a logo is placed into the abraded recess ob-

tained in step (1).

10. The method according to claim 8 wherein the golf club head obtained in step (6) is baked at a temperature of about 60 to 80°C.

11. The method according to claim 8 wherein the drying process of step (4) is in a vacuum state.

12. The method according to claim 8 wherein a solvent is applied during the abrading process of step (5).

13. The method according to claim 8 wherein a solvent with pressure is applied during the polishing process of step (6).